

## METHODS AND APPARATUS FOR GUIDING A GUIDE WIRE

### ABSTRACT OF THE DISCLOSURE

Methods and apparatus for guiding a guide wire through a blood vessel are described. An exemplary embodiment includes a guide wire coupled to an interferometric guidance system. The interferometric guidance system is configured to provide imaging information of the vessel. The guidance system further includes a flow detection circuit for performing Doppler shift analysis to determine the presence of neovascular channels through an obstruction in the vessel. The neovascular flow information is used by the guide wire operator to guide the guide wire through the obstruction.